Escaping low earnings

René Morissette and Xuelin Zhang

Low-paid work can be a stepping stone toward a better-paying position. However, concern has been expressed that some workers may remain in low-paying jobs for several years. Prolonged periods of low earnings can put individuals at risk of social exclusion, limit their capacity to buffer income losses or unexpected expenses, and restrict their ability to become economically self-sufficient. Without the necessary resources, they may delay getting married, starting a family, or buying a home. For these reasons, the upward mobility (or lack thereof) of low earners attracts considerable attention.

The 1990s saw substantial changes to social assistance and Employment Insurance. An implicit goal of these reforms was to give workers with a marginal attachment to the labour market (many of them low earners) a stronger incentive to find work. The hope was that they would find a job, retain it, and eventually become economically self-sufficient. However, these institutional changes took place in a period when the earnings of many low skilled workers were falling.[1] Such workers may have found themselves in the predicament of having low earnings with little chance of escaping. On the other hand, the rise in educational attainment may have increased their chances of moving to higher wages.

Using the Longitudinal Worker File (LWF) and the Longitudinal Administrative Databank (LAD), this article traces employees' chances of escaping low earnings between 1983 and 2000 (see *Data sources and definitions*). While other studies have documented this issue during the early 1990s (Drolet and Morissette 1998) and the late 1990s (Janz 2004), none have examined the last two decades as a whole.[2] Similarly, little is known about the degree to which workers fall back into low earnings. The study takes advantage of the long time period covered by the LWF and the LAD to investigate these issues. The upward mobility of low earners is analyzed over several four-year periods, allowing a comparison of two periods characterized by similar labour market conditions: 1985 to 1989 and 1996 to 2000.

The study does not account for individuals who may be able to offset their low earnings through self-employment. However, self-employment is not an

René Morissette and Xuelin Zhang are with the Business and Labour Market Analysis Division. René Morissette can be reached at (613) 951-3608, Xuelin Zhang at (613) 951-4295 or both at perspectives@statcan.ca.

Table 1: Educational attainment and employment patterns of low earners aged 25 to 50

	Low earners*		Other workers	
	1986	1996	1986	1996
Educational attainment		%		
Men				
Less than high school	39.7	29.0	25.9	17.3
High school	15.4	23.6	16.9	23.1
Postsecondary education	34.1	34.0	39.0	38.2
University degree	10.8	13.4	18.3	21.4
Women				
Less than high school	35.5	22.6	17.5	9.6
High school	20.1	25.9	19.5	21.7
Postsecondary education	35.5	38.9	41.4	41.5
University degree	8.8	12.7	21.2	27.1
Employment patterns				
Men				
Full-year, full-time	31.3	36.1	86.5	87.0
Full-year, part-time	3.8	5.5	0.9	0.7
Part-year, full-time	52.0	45.0	11.5	11.6
Part-year, part-time	13.0	13.4	1.0	0.7
Women				
Full-year, full-time	27.0	31.5	83.0	82.6
Full-year, part-time	16.4	17.3	6.0	6.2
Part-year, full-time	29.9	27.0	8.7	8.8
Part-year, part-time	26.6	24.2	2.4	2.3

Source: Census of Population
** Workers receiving less than $23,551 (2001 dollars).*

Data sources and definitions

The **Longitudinal Worker File** (LWF) is a 10% random sample of all Canadian workers. It integrates data from four sources: the Record of Employment (ROE) files of Human Resources and Skills Development Canada, the T1 and T4 files of the Canada Revenue Agency, and the Longitudinal Employment Analysis Program (LEAP) file of Statistics Canada. (LEAP is a longitudinal file on Canadian businesses at the company level.)

The **Longitudinal Administrative Databank** (LAD) is a longitudinal sample of taxfilers beginning with 1982 derived from the annual tax file provided by the Canada Revenue Agency. It contains a wide variety of income and demographic variables.

The LWF records person-job-years. An employee (the self-employed are excluded) holding five jobs in a given year contributes five observations. The LWF includes information on age, sex, province of residence, annual earnings, employer, industry, firm size, reason for separation when applicable, and whether the separation is permanent or temporary.[3]

Both the LWF and the LAD can provide data on transitions into and out of low earnings over the last two decades. Both have three important strengths. First, their measure of earnings is based on tax records and thus is quite accurate. Second, they have very large samples, and third, they cover long time periods—currently, 1983 to 2000 for the LWF and 1982 to 2002 for the LAD.

But both files have some limitations for the analysis of *trends* in mobility. With the introduction of the federal sales tax credit in 1986 and the goods and services tax credit in 1990, the proportion of individuals filing T1 tax forms changed. Being based on T1 tax forms, the LAD exhibits variation in the percentage of taxfilers with low earnings (Beach and Finnie 1998). Specifically, it likely captured more low earners after 1986 than it did previously, thereby affecting the comparability of derived mobility patterns. Because it collects annual wages and salaries from T4 files, the LWF does not share this problem. However, it contains no edits to deal with individuals who change social insurance numbers (SINs) or have multiple SINs. This may affect the estimates of upward or downward mobility since such individuals are two (or more) distinct workers in the LWF.[4]

Since neither data set produces perfectly consistent mobility patterns, this article uses both to document transitions into and out of low earnings over the last two decades. Most trends seen in the LWF are also seen in the LAD.

Because the LWF contains no information about income from self-employment, it does not allow an analysis of mobility based on all sources of labour market income. However, it can be used to assess the extent to which workers can escape low earnings through *paid employment*—that is, through an increase in their annual wages and salaries. If technological change, growing competition within industries or from abroad, or outsourcing modify the behaviour of employers in a way that limits the growth of well-paid jobs domestically, opportunities associated with paid employment will decline and chances of escaping low earnings through paid employment will likely fall.

The two-step procedure outlined in Morissette and Bérubé (1996, Appendix 1) was used to select a sample from the LWF that is consistent over time. First, jobs with annual wages and salaries less than $250 in 1975 dollars were excluded. (In current dollars, the resulting thresholds equalled $501 in 1983, $645 in 1989 and $843 in 2001.) Annual wages were then derived by summing earnings from all other jobs held in a given year. Thus, earnings were made up of annual wages and salaries from jobs paying at least $843 in 2001 dollars. From the LAD, then, only individuals with annual wages and salaries of at least $843 in 2001 dollars were selected.

The analysis was restricted to employees aged 25 to 50. Individuals under 25 were excluded because many of them had not yet completed the transition from school to work, and because the LWF contains no information to identify full-time students. The main interest is to document mobility patterns prior to retirement. Therefore, those over 50 were also excluded because much of the analysis uses transition probabilities over four-year periods. At the end of a period, these individuals would be 55 or older, and neither file can distinguish those who take early retirement.

Earnings are annual wages and salaries and exclude income from self-employment. Workers have low earnings if their annual wages and salaries in year t are less than $23,551 annually in 2001 dollars. This corresponds to the before-tax low-income cutoff (LICO) for a family of two living in an urban area of at least half a million. Individuals with low earnings in year t were coded as having escaped low earnings by year $t+4$ if annual wages and salaries in $t+4$ were at least 10% higher than the 2001 LICO. The 10% buffer was used to avoid including marginal transitions out of low-paid work. Workers with low annual wages and salaries in year t who moved into self-employment in year $t+4$ are considered as not having escaped low earnings through paid employment, even though their self-employment income in year $t+4$ may have enabled them to exceed the low earnings threshold.

option for many workers, who may lack the necessary entrepreneurial skills, face borrowing constraints, or view self-employment as stressful or risky. Therefore, the question of whether today's workers are less likely than past workers to move out of low earnings solely through paid employment remains important. As noted, a decrease in chances of escaping low earnings makes for financial vulnerability in the event of job loss or unexpected expenses—not to mention raising more fundamental questions of well-being and getting on with life, including marrying, having children, or buying a house.

Trends in upward mobility, 1985 to 2000

Arguably, one would expect low earners to display more precarious employment patterns than other workers. Indeed, compared with higher earning employees, those with low earnings are employed full year full time much less often.[5] During the mid-1990s, about one-third of low earners were employed full year full time—less than half the rates observed among other workers (Table 1).

The last two decades have witnessed substantial increases in educational attainment among the workforce. Education levels rose for both low earners and higher earners. In 1986, fully 40% of male low earners had no high school diploma. By 1996, the proportion had dropped to 29%. Similarly, female low earners were much better educated in the mid-1990s than in the mid-1980s.

Since chances of moving out of low-paid work rise with education (Janz 2004), the growth in educational attainment should have increased chances of escaping low earnings between the mid-1980s and the mid-1990s. But, was this in fact the case?

For men aged 30 or more, the answer is clearly no. For them, chances of moving out of low earnings were never markedly higher between 1996 and 2000 than between 1985 and 1989, two periods when the unemployment rate of men aged 25 to 54 averaged 7.3% (Chart A). For instance, 45% of male low earners aged 30 to 34 moved out of low earnings between 1985 and 1989. For the 1996-2000 period, the proportion did not change appreciably. Among men 25 to 29, chances of escaping low earnings improved slightly.

Among women with low earnings, only those 25 to 29 enjoyed a substantial increase in upward mobility. Their chances of escaping low earnings rose by about 6 percentage points between 1985-1989 and 1996-2000. Older women moved up marginally.[6]

Hence, despite their greater educational attainment, low-paid men were generally no more likely to escape low earnings in the mid-1990s than in the mid-1980s. The implication is clear: Upward mobility of low-paid men must have fallen, at least for some educational groups.[7]

While workers' chances of escaping low earnings generally did not increase between the 1980s and the 1990s, perhaps those who escaped low earnings in the 1990s enjoyed greater earnings growth than their counterparts in the 1980s. The data do not support this view. Even though the employment income of those who moved out of low earnings grew substantially over a four-year period—generally by $20,000 or more—the growth during the second half of the 1990s did not surpass that in the second half of the 1980s (Table 2). Again, women 25 to 29 are the exception: Those who escaped low earnings between 1996 and 2000 saw their earnings rise by about $22,000—about $2,000 more than their counterparts between 1985 and 1989.[8]

Factors associated with upward mobility

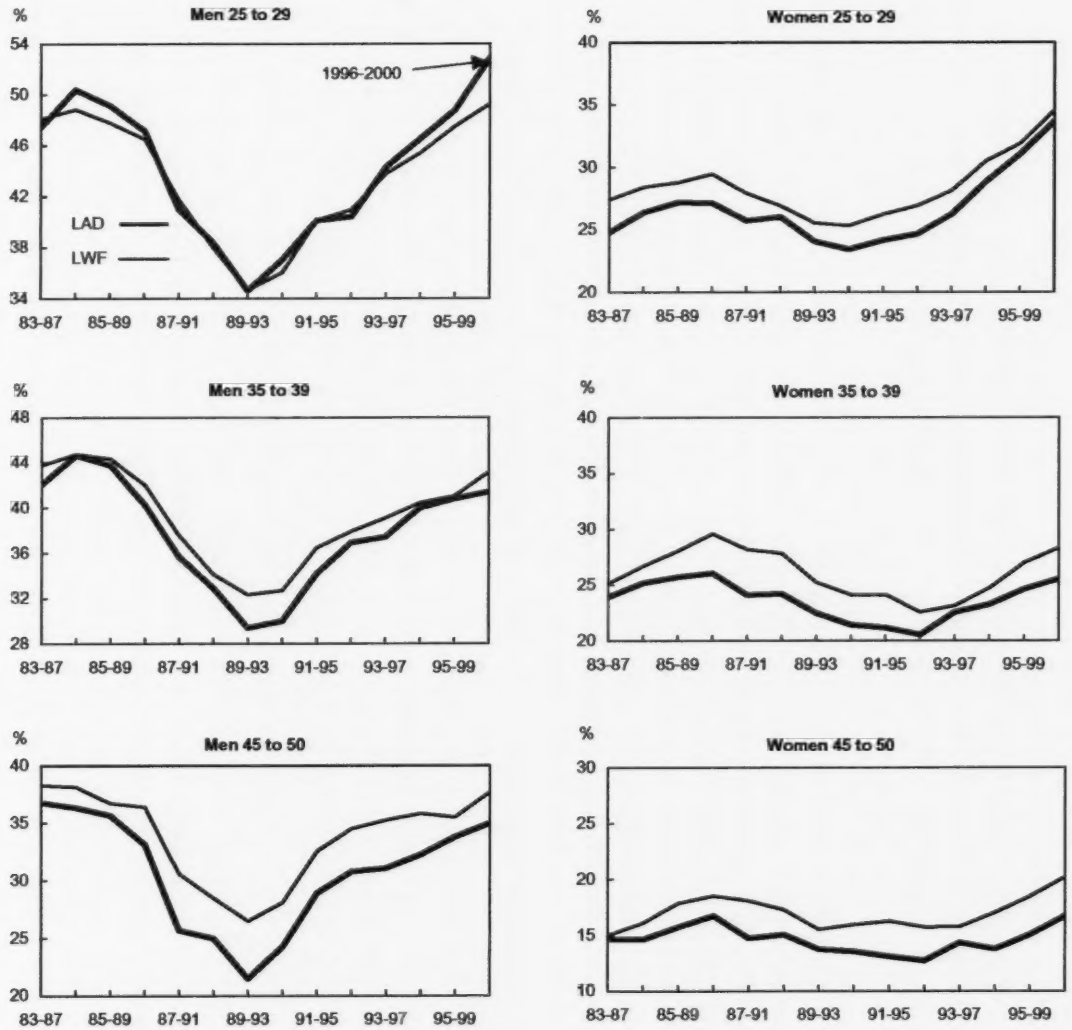
Between one-third and one-half of male workers with low earnings in a given year escaped the situation four years later. For women, the proportion varied between 15% and 35%. Chances of moving out of low earnings are procyclical—they drop in recessions and increase during expansionary periods (Chart A). But which workers are most likely to succeed in escaping?

Table 2: Median earnings growth* of workers who escape low earnings

	Age at beginning of period				
	25-29	30-34	35-39	40-44	45-50
Men			$		
1985-1989	25,100	25,600	25,900	25,800	25,100
1986-1990	25,400	25,500	26,200	25,600	24,900
1995-1999	24,400	24,000	24,200	24,100	23,800
1996-2000	25,300	24,500	24,300	24,500	24,400
Women					
1985-1989	19,800	20,000	20,000	18,800	17,300
1986-1990	19,900	20,000	19,500	19,200	17,500
1995-1999	21,500	20,100	19,500	18,800	17,100
1996-2000	22,200	20,800	20,300	19,400	18,100

Source: Longitudinal Worker File
** Median value of the difference between annual earnings in year t+4 and those in year t (2001 dollars).*

Chart A: Upward mobility of low earners*



Sources: Longitudinal Worker File, Longitudinal Administrative Databank
** Workers with low (but positive) earnings in year t and positive earnings in year t+4.*

In both the mid-1980s and the mid-1990s, young workers were much more likely than older ones to move out of low earnings. For instance, almost half of men aged 25 to 29 with low earnings in 1995 were no longer in that state in 1999. However, this was true for only 35% of those aged 45 to 50. The greater mobility of young workers no doubt reflects the faster wage growth common at the beginning of a career.

In all age groups, women were less likely than men to escape low earnings. This may reflect a number of factors. First, women receive lower wages. Second, they may be overrepresented in occupations that offer little reward for experience. Third, some may be lone mothers reluctant to work more hours or change employers.[9]

In both periods, workers who stayed with their employer and those who changed employers had about the same chances of escaping low earnings—overall, slightly more than 40% for men (Table 3). However, the degree of success varied substantially within the two categories. Men or women who stayed with a large firm (500 or more employees) were almost twice as likely to escape low earnings as those who stayed with a small one (less than 20 employees). Among workers changing employers, those moving to a larger firm were much more likely to escape than those moving to a smaller firm—not surprising since large firms pay higher wages (Morissette 1993).

Chances of escaping low earnings also varied by industry. Half of male low earners who continued to work in manufacturing, distributive services, business services or public services managed to escape after four years. This is almost twice the rate of 26% among low-paid men in consumer services. Similarly, more than one-third of low-paid women who remained in distributive services, business services or public services moved up after four years. In contrast, only 11% in consumer services did so.

Among workers changing industries, those landing a new job in consumer services were much less likely to escape low earnings than others. This no doubt reflects the relatively low wages in this industry. In contrast, workers moving to public services from other industries were fairly successful.

Whether workers were permanently laid off or quit voluntarily also mattered. As might be expected, low earners who quit had a better chance of escaping low earnings.

Table 3: Upward mobility of low earners aged 25 to 50, by selected characteristics*

	Men		Women	
	1985-89	1995-99	1985-89	1995-99
	%			
All ages	**45.0**	**42.7**	**26.6**	**26.5**
25 to 29	47.8	47.5	28.8	31.9
30 to 34	45.3	43.1	29.5	28.7
35 to 39	44.3	41.0	28.1	27.0
40 to 44	41.5	38.8	23.6	23.2
45 to 50	36.7	35.5	17.9	18.4
Stayed with same employer	44.3	40.5	27.4	25.8
Firm with 1 to 19 employees	32.9	29.4	16.4	15.0
Firm with 20 to 99 employees	46.2	39.9	21.7	19.5
Firm with 100 to 499 employees	48.5	47.0	26.3	28.2
Firm with 500 or more employees	55.4	53.3	35.0	35.3
Changed employers	45.2	43.5	26.1	27.0
Moved to a larger firm	54.2	51.9	30.3	31.0
Moved to a smaller firm	35.9	36.0	19.7	21.1
Stayed in same size class	43.1	40.7	26.6	27.0
Stayed in same industry	45.2	41.9	26.7	25.9
1. Primary and construction	40.5	39.8	21.1	22.4
2. Manufacturing	56.1	53.3	26.0	27.4
3. Distributive services	52.9	50.5	37.9	37.5
4. Business services	53.9	51.6	35.2	36.5
5. Consumer services	30.5	26.3	10.5	10.8
6. Public services	51.2	49.7	38.4	37.3
Changed industries	44.9	44.0	26.3	28.0
From 1-5 to 6	54.3	54.2	40.3	39.3
From 1-2 to 6	47.8	48.0	30.3	28.2
From 5 to 6	49.6	47.9	29.9	28.7
From 5 to 3-4	46.6	44.7	25.1	27.2
From 1-2 to 3-4	45.9	43.4	28.2	30.3
From 2 to 3-4	49.1	45.7	30.0	29.9
From 1-4 to 5	30.7	27.6	13.3	14.5
Type of separation				
Permanent quit	46.4	46.8	25.6	28.0
Permanent layoff	37.2	36.8	16.0	20.4
Other permanent separation	47.2	43.7	27.8	27.0

Source: Longitudinal Worker File

** The sample consists of workers who had low (but positive) earnings in year t and positive earnings in year t+4. The table shows what percentage of all workers with low earnings in year t escaped low earnings in year t+4.*

Falling back into low earnings

While a substantial proportion of workers escaped low earnings over the space of a four-year period, about one-quarter fell back during the next four years (Table 4). Not surprisingly, chances of falling back increase during recessionary periods. For example, of male low earners 25 to 50 who escaped low earnings between 1985 and 1989, 35% fell back at least once between 1990 and 1993, a period that includes the 1990-1992 recession. In contrast, only 24% of their counterparts who moved out of low earnings between 1992 and 1996 fell back between 1997 and 2000.[10]

Which workers are most likely to fall back into low earnings? To answer this question, separate multivariate analyses were done for men and women who escaped low earnings between 1992 and 1996.[11]

The chances vary by age. Men 35 or older who escaped low earnings between 1992 and 1996 were at least 1.2 times more likely than those aged 25 to 29 to fall back (Chart B). In contrast, women aged 30 to 44 were less likely to do so than those aged 25 to 29. Presumably, the relatively high risk experienced by women aged 25 to 29 (in 1992) is partly because some of them quit their job to go on maternity leave when they were aged 30 to 34—that is, between 1997 and 2000.

Chances also vary by firm size. Those employed in small firms were at least 1.2 times more likely than those in large firms to fall back. Part of the difference no doubt reflects greater permanent layoff and bankruptcy rates among small firms.

Table 4: Repeat incidence of low earnings*

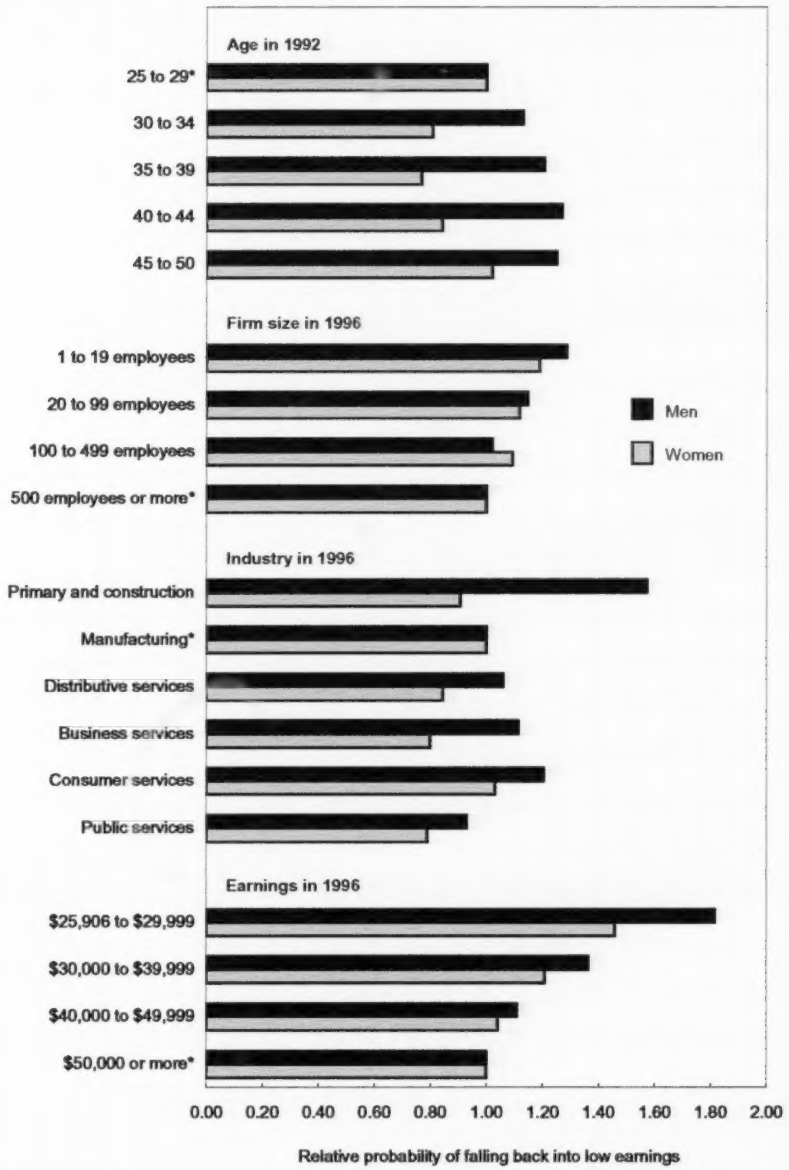
	Age at beginning of period					
	25-50	25-29	30-34	35-39	40-44	45-50
Men			%			
1983-1987	28.2	25.2	26.6	29.9	33.4	36.3
1984-1988	31.3	27.4	31.3	33.1	36.3	41.1
1985-1989	34.7	30.9	33.6	37.9	40.7	43.3
1986-1990	32.3	29.0	30.7	36.3	38.9	38.6
1987-1991	29.3	25.2	29.0	33.9	35.0	37.8
1988-1992	26.8	22.9	25.3	30.9	29.7	41.6
1989-1993	24.6	22.6	23.9	26.1	28.2	29.8
1990-1994	25.1	23.0	23.4	28.0	26.6	33.6
1991-1995	24.9	22.4	26.1	27.1	25.2	28.1
1992-1996	23.5	21.3	23.1	22.9	26.8	28.9
1993-1997	23.1	19.9	24.2	25.1	24.1	26.5
1994-1998	23.2	19.1	24.5	25.4	26.2	26.1
Women						
1983-1987	30.4	34.7	27.9	29.2	26.7	31.1
1984-1988	30.7	34.6	29.1	26.2	29.9	34.4
1985-1989	30.9	35.6	29.8	26.6	26.7	35.9
1986-1990	30.5	37.2	28.3	24.6	28.9	31.2
1987-1991	28.0	34.6	26.0	23.7	24.8	27.4
1988-1992	29.0	35.3	26.4	23.2	29.1	29.9
1989-1993	27.5	36.3	23.7	21.6	24.8	29.9
1990-1994	29.6	35.6	28.3	25.1	27.3	30.4
1991-1995	29.1	35.0	27.3	26.0	26.6	28.2
1992-1996	26.9	35.6	22.3	20.8	26.7	27.8
1993-1997	26.6	31.5	26.3	22.5	23.4	28.3
1994-1998	27.0	35.1	23.6	22.3	23.2	30.2

Source: Longitudinal Administrative Databank
** The table shows what percentage of workers who escaped low earnings during a four-year period fell back during the next four-year period.*

As expected, chances of returning to low earnings drop as employment income rises. Employees who escaped low earnings but earned less than $30,000 in 1996 faced a much greater risk—at least 1.5 times—than those paid $50,000 or more. Part of the difference may arise because young highly educated workers—many of whom may earn $50,000 or more after having escaped low earnings—are less likely to be laid off than other workers, and therefore less likely to fall back into low earnings.

Even after controlling for age, firm size and earnings, important differences in the risk of falling back remained across industries, especially for men. They were 1.6 times more likely in primary industries and construction than in manufacturing to slide back into low earnings. Part of the difference likely reflects the relatively high seasonality of the construction industry and the associated high risks of temporary layoff. In contrast,

Chart B: Relative probabilities of falling back into low earnings—workers escaping low earnings between 1992 and 1996.



Source: Longitudinal Worker File
** Reference group*

persons employed in public services had lower chances than those in manufacturing of falling back into low earnings.

Summary

Between one-third and half of men with low earnings in a given year had managed to escape four years later. For women, the proportions varied between 15% and 35%. Chances of escaping drop in recessions and increase during expansionary periods. More importantly, despite increasing educational attainment, low earners generally were no more likely to escape their situation in the 1990s than in the 1980s. Moreover, those who did escape generally did not experience greater earnings growth.

Workers most likely to move out of low earnings were young, worked in large firms, or changed employers and moved to a larger firm or to public services. In contrast, the chances were relatively small for those aged 45 to 50, working in small firms, or moving to a smaller firm or to consumer services.

Not all who escaped remained above the low-earnings threshold. Even in expansionary periods, at least one-quarter of men and women who escaped low earnings during one four-year period fell back during the next period. Along with age and employment income, firm size and industry affect the chances of falling back into low earnings. At least 25% of low earners who moved up fell back, suggesting that many low earners experience substantial earnings instability.

Notes

1 Between 1990 and 2000, Canadian-born men aged 25 to 34 with a high school diploma and employed full time in the private sector saw their median weekly earnings drop 11%. For their female counterparts, the drop was 3%. These numbers come from the 1991 and 2001 Censuses of Population.

2 Morissette and Bérubé (1996) is the only previous Canadian attempt to examine trends in transitions out of low earnings. However, their analysis covers only the 1976-1992 period and thus does not allow a comparison of recent mobility patterns with those observed in the 1980s. In contrast, Beach and Finnie (1998) use the Longitudinal Administrative Databank to address a more general issue: the extent to which workers in various parts of the earnings distribution experienced upward or downward mobility during the 1982-1994 period. Using transition matrices, they provide descriptive evidence regarding workers' ability to cross various earnings thresholds over periods of either 6 or 12 years. Contrary to the aforementioned studies, their population at risk of moving up includes not only workers with relatively low earnings, but also middle-paid workers and those with fairly high earnings. They find that the probability of upward movement fell for men but rose for women between the 1980s and the early 1990s.

3 Age, sex and province of residence are drawn from T1 files. Annual wages and salaries come from T4 files. Reasons for separation come from ROE files. Industry, firm size and permanence of a job separation are from LEAP.

4 Beach and Finnie (1998) estimate that the problems with social insurance numbers affect roughly 4% of individuals in a given year.

5 Since the administrative data used in this article provide neither weeks worked nor hours worked per week, it is impossible to assess whether individuals escape low earnings by working more hours per week or more weeks per year, or by earning higher wages.

6 These conclusions hold in logistic regressions that include controls for age, age squared, province, earnings in year *t*, and a vector of period effects. The regressions were run separately for men and women in each age group.

7 An alternative view is that low-paid workers' chances of escaping low earnings would improve only if their educational attainment rose relative to other workers. However, since chances of escaping low earnings did not improve for low-paid men, despite their rising educational attainment, upward mobility must have fallen within some educational categories.

8 Since neither the LAD nor the LWF contain information on workhours, it is impossible to assess the extent to which earnings growth is due to a shift from part-time to full-time work.

9 They may choose jobs that are close to home or school, part-time jobs with hours that coincide with children's school hours, or jobs that require relatively few hours but offer little opportunity for advancement.

10 Workers who fell back into low earnings were those whose annual wages and salaries were positive but less than $23,551 (in 2001 dollars) at least once between year *t+4* and year t+8.

11 Separate logistic regressions were run for these men and women. The dependent variable equals 1 if workers fall back into low earnings at least once between 1997 and 2000, 0 otherwise. The explanatory variables are shown in Chart B. The relative probabilities for a given group of variables (for example, age in 1992) are computed by setting all other explanatory variables to their mean values.

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